

REMARKS

Applicants respectfully request reconsideration and allowance of claims 1-4 which are pending in the above-identified application. Applicants have amended claim 4 so as to comply with 35 U.S.C. § 112 as specified by the Examiner. No new matter has been added by this change to the claims. Applicants' remarks are responsive to the Office Action dated December 6, 2002.

Claims 1-4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Carey et al., U.S. Patent No. 5,597,469 ("Carey") or Dibble et al., U.S. Patent No. 5,316,788 ("Dibble") in combination with DiStefano et al., U.S. Patent No. 6,324,754 ("DiStefano").

Claim 1 is directed to a method of fabricating solder assemblies. A component is provided which includes a dielectric base having a non-solder-wettable surface and a plurality of pads exposed at the surface of the base. An electrically conductive potential plane element overlies the surface of the base and has a non-solder-wettable surface. The potential plane element has openings and the pads are disposed in the openings. Molten solder is provided on each pad and the solder is cooled to solidify the solder so that solder masses are formed on the pads and project through the openings in the potential plane element. At least some of the resulting solder masses are electrically isolated from the potential plane element. The non-solder-wettable surface on the potential plane element helps to form a mass of solder after the solder is cooled so that the mass of solder is isolated from the potential plane element. In the claimed method, the electrically conductive potential plane element performs a dual function. Because it has a non-wettable surface, the potential plane element acts as a solder mask, and thus prevents spreading or bridling of the solder to adjacent

conductive elements. Because it is electrically conductive, it is available in the finished assembly to act as, e.g., a power or ground plane. See ¶ 11 of the present specification. For example, such a potential plane element may be a layer of metal 230 with a non-wettable metallic surface, ¶¶ 20-21, Fig. 1, or a metal element with a dielectric organic coating, ¶ 25; Fig. 5.

The Official Action does not even assert that the references disclose an electrically conductive potential plane element having a non-solder-wettable surface overlying a surface of a dielectric base as required by claim 1. For example, in Dibble, the solder mask layer (Fig. 1B) is a layer of "Vacrel 8130 solder mask, a photosensitive acrylated epoxy;" it is clearly not an electrically conductive potential plane element. *Carey's* layer 16 is not disclosed as electrically conductive; it is apparently a conventional polymer solder mask. Because the references identified by the Examiner do not meet a limitation of claim 1, the rejection must be withdrawn as a matter of law. Accordingly, Applicants submit that claims 1-4 are patentable over the cited art of record.

As it is believed that all of the rejections set forth in the Official Action have been fully met, favorable reconsideration and allowance are earnestly solicited.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he telephone Applicants' attorney at (908) 654-5000 in order to overcome any additional objections which he might have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

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Respectfully submitted,

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